

FACTORS ASSOCIATED WITH HISPANIC FEMALE ADOLESCENTS'
REPRODUCTIVE BEHAVIORS: A SYSTEMATIC REVIEW

A Thesis

by

ALEJANDRA FERNANDEZ

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE

May 2012

Major Subject: Health Education

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Systematic Review

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Approved by:

Chair of Committee,	Patricia Goodson
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ABSTRACT

Factors Associated with Hispanic Female Adolescents' Reproductive Behaviors: A
Systematic Review. (May 2012)

Alejandra Fernandez, B.S., Texas A&M University

Chair of Advisory Committee: Dr. Patricia Goodson

It is clear that the US federal government is concerned about the country's teen pregnancy rates and would like to see changes. Without a precise understanding of the factors associated with adolescent pregnancy, and specifically with Hispanic female adolescent pregnancy, monies allocated to prevention programs could go to waste.

The focus of this study was to systematically review the current literature as it relates to factors, in this case attitudes, beliefs and practices that influence Hispanic female adolescents' reproductive behaviors. This study consisted of systematically reviewing published studies, through a process of abstracting and organizing their findings into a matrix. Three electronic databases were searched: MEDLINE, ERIC, and CINAHL. The initial search yielded a total of 494 publications. After applying specific inclusion criteria, the final sample of publications included forty-nine (n=49). Publications were categorized as primarily quantitative or primarily qualitative studies. Methodological characteristics of each study were judged using an overall methodological quality score (MQS) assigned to each study. Different MQS criteria were developed for qualitative and quantitative studies.

A total of 205 findings were abstracted from the 49 included reports. Beliefs that were identified consistently among the studies were norms and values associated with condom use, partner's beliefs, hedonistic beliefs, and communicative beliefs. Norms and values were also seen as important when adolescents chose to remain abstinent. Findings that were unique to the Hispanic adolescent population were identified as well with cultural factors showing significant associations.

Regarding methodological quality, fewer than 50% of studies included a theoretical framework and only 11 included Hispanic-only samples. Qualitative studies had similar findings to those of the quantitative studies, but also introduced new factors associated with reproductive behaviors. Acculturation constructs were seen among the qualitative studies as being positively associated to sexual abstinence. Other behaviors such as partner's manipulation of birth control and the use of female condoms were unique to the qualitative studies done in this review.

This review provided a critical assessment of the literature and its methodological qualities. Findings should be interpreted with caution due to limitations. Concentrating on unique factors associated with the Hispanic population can lead to interventions that are culturally sensitive to this population and effective. Health professionals should focus on conducting more studies with exclusively Hispanic samples and use factors unique to the Hispanic population when planning health education programs that are culturally sensitive to Hispanic female adolescents' needs and world-views.

DEDICATION

Dedicated to my father, mother, and sister

ACKNOWLEDGEMENTS

I would first like to thank God for allowing me to get where I am now and for filling my life with blessings far beyond what I could have ever imagined.

Thanks to my mother for finding just the right words to say when I needed them the most, to my father for believing in me more than any other person in the entire world, and to my sister who kept me laughing through it all.

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CHAPTER I

INTRODUCTION

In December 2011, the United States Senate passed a bill that would appropriate funds for teenage pregnancy prevention programs in the US. The federal government is concerned about the teen pregnancy rates and would like to see them change. Without an understanding of the factors positively and negatively associated with reproductive behaviors that influence adolescent pregnancy rates, specifically among Hispanic females, monies allocated to prevention program could go to waste.

The focus of this study was to systematically review the literature examining factors such as attitudes, beliefs, and behaviors that influence Hispanic adolescents' reproductive behaviors. These reproductive behaviors can lead to unplanned/unwanted adolescent pregnancies. The reproductive behaviors reviewed herein included the use of hormonal birth control, natural family planning, barrier contraception, withdrawal methods, emergency contraception, sterilization, abortion, and abstinence.

A systematic literature review (SLR) allows gathering information related to factors associated with reproductive behaviors that are represented in the health promotion literature, through a less biased methodology (as compared to narrative reviews). This systematic review will help health educators' better plan prevention programs targeting specific factors associated with Hispanic adolescent females' reproductive behaviors.

This systematic literature review specifically addressed the following research questions:

This thesis follows the style of *Journal of Adolescence*.

1. What factors are found to influence reproductive behaviors (defined as: condom use, abstinence, contraceptives other than condoms, emergency contraception, withdrawal, and unprotected sexual intercourse) of Hispanic female adolescents?
2. Are Hispanic female adolescents being studied in tandem with other ethnic groups, or separately?

The following chapters will report the review's strategies and its findings. In Chapter II, the purpose of the study and the rationale for employing a SLR method will be presented, along with a rationale for focusing the review on Hispanic female adolescents' reproductive behaviors. Chapter II also will include the systematic steps taken to include/exclude published studies along with an explanation of how the quality of studies was assessed. Findings will then be reported according to the factors found to be associated with reproductive behaviors. The discussion will note important findings and factors unique to Hispanic adolescents. Chapter III will summarize and include concluding remark.

CHAPTER II

PROBLEM

Adolescent pregnancy rates are a major concern for the United States because of the economic stress they impose on the country. The annual cost of adolescent childbearing has been estimated at approximately \$9.1 billion (Ventura, 2011). The economic burden is not only felt by society but also by the teenage mother and her child. Adolescents who experience a pregnancy and childbearing face challenges that could ultimately put them at a disadvantage later in life. For example, adolescent mothers are more likely to live in poverty and suffer academically, forcing them into even more economic struggles (Sabatiuk & Flores, 2009).

In the US, the stressors of adolescent pregnancies and childbirths are felt strongly by the Hispanic community (Vexler & Suellentrop, 2006). Although birth rates among teenagers have seen a decrease since 1991, especially among non-Hispanic Blacks, rates for Hispanics have fallen more slowly between 1991 and 2009 (Ventura, 2011). Moreover, birth rates for Latina teens have experienced slight increases, especially in states that have a large number of Hispanic immigrants (Vexler & Suellentrop, 2006).

The differences in pregnancy and childbirth rates between Hispanics and other ethnic groups suggest that Hispanic adolescent girls are not properly utilizing forms of birth control when engaging in intercourse. Identifying the factors associated with reproductive behaviors among Hispanic adolescents could provide venues for prevention and for lowering pregnancy and birth rates. Unfortunately, research focused solely on Hispanic adolescents is noticeably absent from the health promotion literature (Erickson,

1994). Hispanic adolescents that are included in research samples tend to be aggregated with Blacks or Whites, as there are, often, too few participants for statistical analyses of sub-groups (Gibson & Lanz, 1991).

Given the importance of evaluating the extant professional literature regarding its portrayal of Hispanic female adolescents' reproductive behaviors, the purpose of this study was, therefore, to systematically review the research assessing factors associated with Hispanic female adolescents' reproductive behaviors. Research published between 1990 and 2011 was reviewed for factors, and for its methodological quality.

Performing a systematic literature review (SLR) allows organizing currently available information related to factors associated with reproductive behaviors of adolescents and identifying those factors that might be unique to Hispanic teens. Conducting a SLR (as opposed to a traditional, narrative literature review) allows for including all studies related to the topic, thus avoiding any biases in selection criteria (Hemingway & Brereton, 2009). Any inconsistencies, variability and gaps in the literature can be more easily identified, as the findings are summarized and critically analyzed in a systematic manner (Bowman, 2007).

Studies included in this review focused on adolescents between the ages of 13 and 18. The reasoning behind selecting this particular age range was that, at 18 years of age, adolescents generally exit the high school environment (if they are still continuing school) and either end their schooling or continue onto higher education. This transition exposes adolescent females to a new and different set of environments, norms, and values; therefore we restricted the population to those adolescents still presumed to be

attending high school. This systematic literature review specifically addressed the following research questions:

1. What factors influence the reproductive behaviors (defined as: condom use, abstinence, contraceptives other than condoms, emergency contraception, withdrawal, and unprotected sexual intercourse) of Hispanic female adolescents?
2. Are Hispanic female adolescents being studied in tandem with other ethnic groups, or separately?

Methods

This review was conducted by systematically assessing articles through a process of abstracting and organizing their data (and methodological quality assessments) into a matrix (also known as the Matrix Method) (Garrard, 2010). Three electronic databases were searched: MEDLINE, ERIC, and CINAHL. When conducting multiple searches, the following keywords were employed (individually or coupled with Boolean connectors): adolescent, teen/teenager, youth, high school, middle school, junior high, Hispanic, Mexican American, Latina, condom, contraceptive, contraception, pregnancy prevention, prevention, reproductive behavior, contraceptive device, pregnancy in adolescent, attitude, intention, decision making, problem solving.

The initial search of the three databases yielded 494 publications. To be included in the review, however, studies had to meet the following inclusion criteria: 1) focus exclusively on adolescent samples OR 2) include Hispanics as part of the sample; 3) include females in the samples; 4) be conducted in the US; 5) be written in English; 6)

include reproductive behaviors among the variables studied; 7) have been published between January 1990 and October 2011. The review included studies published from 1990 until October 2011. Prior to the mid-1980's, data on Hispanic adolescent populations was rare.

Studies were excluded if factors such as attitudes, beliefs, and behaviors were mentioned but not statistically tested for their association with reproductive behaviors. After submitting each publication to the inclusion/exclusion criteria, the number of studies was reduced to 180. Each report was then read in its entirety and again checked whether it met the inclusion criteria. The final sample of studies comprised forty-nine (n=49) reports. The resulting 49 published reports were then categorized as primarily quantitative or primarily qualitative studies. Main headings for the matrix included: author, year, journal publishing the article, title, theory employed in the study, ethnic groups being studied, total sample size, geographical location, methodology, exclusively Hispanic sample (yes/no) , research instrument, and findings.

Methodological characteristics of each report were also assessed. Methodological quality was determined using a methodological quality score (MQS) assigned to each study. Different MQS criteria were created for qualitative and quantitative studies (Moja, Telaro, D'Amico, Moschetti, Coe, & Liberati, 2005). For quantitative studies, a score of 16 was the highest total score possible and 9 was the highest score possible for qualitative studies. Tables 1 and 2 describe the qualities assessed. The rationale for having two MQS scales lies in the differences regarding what constitutes optimal research in quantitative versus qualitative studies.

Table 1. Quantitative methodological quality score criteria and distribution among reviewed studies

Methodological Characteristics	Scoring Option (MAX = 16 points)	Distribution of characteristics among studies	
		Frequency (n)	Percent (%)
Theory	Theory present = 1 pt	19	46
	No theory present = 0 pt	22	54
Defines	Hispanic defined = 1 pt	10	24
Hispanic	Hispanic not defined = 0 pt	31	76
Separate ethnic groups	Separated ethnic groups in analysis = 1 pt	15	37
	Did not separate ethnic groups in analysis = 0 pt	26	63
Research Design	Cross-sectional = 1 pt	37	90
	Longitudinal = 2 pt	4	10
Research Paradigm	Quantitative/Qualitative = 1 pt	41	100
	Mixed methods = 2 pt	0	0
Sample size	Undetermined = 0 pt	0	0
	Small sample (<100) = 1 pt	1	2
	Medium sample (100<300) = 2 pt	9	22
	Large sample (>300) = 3 pt	31	76
Sample ethnicities	Mixed ethnicities = 1 pt	31	76
	Specific Hispanic study = 2 pt	10	24
Data analysis	Undetermined = 0 pt	0	0
	Bivariate = 1 pt	17	41
	Multivariate = 2 pt	22	54
	SEM = 3 pt	2	5
Study	Inappropriately generalized = 0 pt	2	5
Conclusion	Appropriately generalized = 1 pt	39	95

Table 2. Qualitative methodological quality score criteria and distribution among reviewed studies

Methodologic Characteristic	Scoring Option (MAX = 9 points)	Distribution of characteristics among studies	
		Frequen cy(n)	Percenta ge (%)
Defines Hispanic Sample	Hispanic defined = 1 pt	2	25
	Hispanic not defined = 0 pt	6	75
Data analysis	Captures diverse views = 1 pt	6	75
	Homogenous views = 0 pt	2	25
	Provides enough details regarding data chunking, coding, and summarizing = 2 pt	3	38.5
	Provides minimal details regarding data chunking, coding, and summarizing = 1 pt	4	50
Findings	Provides no details regarding data chunking, coding, and summarizing = 0 pt	1	13.5
	Provides participants' statements = 1 pt	8	100
	Does not provide participants' statements = 0 pt	0	0
Specific to Hispanics	Examines/elicits factors unique to Hispanic culture = 1 pt	2	25
	Does not examine/elicit factors unique to Hispanic culture = 0 pt	6	75
Methods	All qualitative = 1 pt	3	37.5
	Mixed methods = 2 pt	5	62.5
Theory	Theory used = 1 pt	2	25
	No theory used = 0 pt	6	75

In each reviewed study, every test of the association between specific attitudes, beliefs, or behaviors and the reproductive behaviors of interest were counted as individual, separate *findings* (Lipsey & Wilson, 2001). A finding was defined as an empirical relationship found to be statistically significant at the .05 level of probability. Each study could have, therefore, multiple findings, or multiple tests of relationships between/among variables. When multiple findings were reported, only those associated with the more robust statistical tests were included in this review.

At the time of writing, the validity of the data-abstracting process is being confirmed through having another independent reader abstract data from a randomly-selected number of studies. Later, data abstracted by the researcher and the independent reader will be compared to determine inter-rater reliability of the abstracting process.

Results

Study Characteristics

Table 3 depicts published studies on reproductive behaviors of adolescents as they are published in different professional journals. Some of the journals publishing studies on reproductive behaviors focus on AIDS/HIV education and prevention. Five studies were published in adolescent-specific journals.

Table 3. Frequency of studies being published in professional journals

Name of Journal	Frequency
Perspectives on Sexual and Reproductive Health	5
Journal of Adolescent Health	4
Journal of School Health	4
Contraception	4
Family Planning Perspectives	4
Health Education & Behavior	3
AIDS Education and Prevention	2
Hispanic Journal of Behavioral Science	2
Addictive Behavior	1
AIDS Care	1
Journal of Pediatric Adolescent Gynecology	1
American Journal of Public Health	1
International Journal of Adolescent Medical Health	1
Journal of American Psychiatric Nurses Association	1
Journal of Health Education	1
Journal of HIV/AIDS Prevention & Education for Adolescent & Children	1
Journal of Primary Prevention	1
Journal of Sex Research	1
Maternal Child Health Journal	1
Nursing Research	1
Pediatric Nursing	1
Research in Nursing & Health	1
Studies in Family Planning	1
Western Journal of Nursing Research	1
Women & Health	1
Health Education Research	1
American Journal of Sexuality Education	1
Hispanic Healthcare International	1
Ambulatory Pediatrics	1
	49

The geographical location of the studies was also of interest. Figure 1 depicts the map of the US indicating where data were collected for each of the 49 studies. Most studies cluster in the New York City (Latka, Kapadia, & Fortin, 2008; Johnson, Nshom, Nye, & Cohall, 2010; Walter, Vaughan, Gladis, Ragin, Kasen, & Cohall, 1993; Koopman, Rosario, & Rotheram-Borus, 1994; Walter, Vaughan, Ragin, Cohall, & Kasen, 1994; Whitaker, Miller, May, & Levin, 1999; Levin & Robertson, 2002; Kerns, Westhoff, Morroni, & Murphy, 2003; Guilamos-Ramos, Bouris, Jaccard, Lesesne, Gonzalez, & Kalogerogiannis, 2009; Garbers, Correa, Tobier, Blust, & Chiasson, 2010) and the Los Angeles areas (Erickson, 1994; Griffin, 1994; Unger, Molina, & Teran, 2000; Sneed, Morisky, Rotheram-Borus, Ebin, Malotte, Lyde, & Gill, 2001; Gelberg, Leake, Lu, Andersen, Nyamathi, Morgenstern, & Browner, 2002; Koniak-Griffin, Lesser, Uman, & Nyamathi, 2003; Bazargan & West, 2006; Koniak-Griffin & Stein, 2006; Bazargan, Stein, Bazargan-Hejazi, & Hindman, 2010).

Figure 1. US Map Depicting locations where studies of Hispanic female adolescents' reproductive behaviors have been conducted



Methodological Quality of Studies

Each study was assigned a Methodological Quality Score designed to reflect its characteristics. A distribution of the scores is presented in Tables 1 and 2. Table 1 provides the criteria and scores for the quantitative studies: scores ranged, theoretically, from 1 to 16, with actual scores ranging from 7 to 14 (mean = 9.6, median = 10, mode = 11). For qualitative studies (Table 2) the highest score was a 7 and the lowest, a 3 out of a possible total 9 points (mean = 4.6, median = 5, mode = 5). All qualitative studies provided statements or verbatim quotes from participants. Regardless of the paradigm, most studies did not use a theoretical framework in their assessment and/or their findings (only 25% did include a theoretical framework). Only one in four studies examined factors unique to Hispanic adolescents.

One important characteristic was the use of cross-sectional versus longitudinal designs. Most of the studies employed cross-sectional designs, with only 5 studies using longitudinal analyses (Langer, Zimmerman, & Katz, 1994; Nahom, Wells, Gillmore, Hoppe, Morrison, Archibald, Murowchick, Wilsdon, & Graham, 2001; Kems et al., 2003; Koniak-Griffin & Stein, 2006; Erickson, 1994). Because cross-sectional data are a static “snap-shot” of the sample being studied, they do not allow researchers to infer causality, or determine the direction of the associations found (i.e., it becomes impossible to determine whether a given attitude shapes a behavior, or if the behavior led to the attitude).

The next characteristic of interest was the inclusion of theory. Table 4 depicts which theories were more prominently used. It is noteworthy that less than fifty percent

of studies actually relied on a theoretical framework to develop their research, instrumentation, and data collection. Among studies that did apply theoretical frameworks, the theory/model that was more commonly used was the Health Belief Model—used in six studies (Hingson, Strunin, Berlin, & Heeren, 1990; Walter et al., 1993; Norris & Ford, 1994; Walter et al., 1994; Basen-Engquist, Tortolero, & Parcel, 1997; Unger et al., 2000), Social Cognitive Theory—used in six studies, as well (Walter et al., 1993; Walter et al., 1994; Basen-Engquist et al., 1997; Koniak-Griffin et al., 2003; Koniak-Griffin & Stein, 2006; Johnston-Polacek, Rojas, Levitt, & Mika, 2006), the Theory of Planned Behavior—closely following with five studies utilizing it (Koniak-Griffin et al., 2003; Villarruel, Jemmott, Jemmott, & Ronis, 2004; Koniak-Griffin & Stein, 2006; Villarruel, Jemmott, Jemmott, & Ronis, 2007; Teitelman, Ratcliffe, & Cederbaum, 2008). The Health Belief Model was used most often between the years 1990 and 2000. After 2000, studies showed a shift in the theory being applied; by then, the Theory of Reasoned Action, Theory of Planned Behavior, and Social Cognitive theory became more common. Often, these theories were used in tandem.

Table 4. Theoretical frameworks used among studies

Name of Theory	Frequency
Health Belief Model	6
Social Cognitive Theory	6
Theory of Planned Behavior	5
Theory of Reasoned Action	4
Information Motivation-Behavior (IMB) Theory	2
Social Influence Theory	2
Acculturation Theory	1
AIDS Risk Reduction Model	1
Construct Accessibility Model (CAM)	1
Life-course Framework	1
Problem Behavior Theory	1
Protection Motivation Theory	1
Protection Risk Conceptual Framework	1
Reference Group Theory	1
Social Ecological Framework	1
Social Learning Theory	1
Theory of Gender and Power	1

Other qualities assessed by the MQS were sample composition, sample size, and statistical analysis employed. Regarding sample composition, the ethnic groups included in studies were usually mixed. Most commonly, Hispanic groups were surveyed along with other groups such as Caucasian, African-American, Asian, and “Other”. Of the 49 studies reviewed, only 10 had a sample comprising only Hispanic adolescents (Sneed et al., 2001; Brown, Villarruel, Oakley, & Eribes, 2003; Villarruel et al., 2004; Gilliam & Hernandez, 2007; Villarruel et al., 2007; Edwards, Fehring, Jarrett, & Haglund, 2008; Guilamos-Ramos et al., 2009; Deardoff, Tschann, Flores, Ozer, 2010; Tschann, Flores, Groat, Deardoff, & Wibbelsman, 2010; Gilliam, Neustadt, Whitaker, & Kozloski, 2011). Among the quantitative studies, the majority (76%) studied samples of 300 or more participants. Regarding the type of statistical analysis employed, 59% of the quantitative studies used a multivariate analysis or a more rigorous analysis (such as structural equation modeling).

Study Findings

Findings from Quantitative Studies

Beliefs, attitudes, and behaviors listed below were significantly correlated with reproductive behaviors in studies using mixed or specifically Hispanic samples. Beliefs and attitudes *unique* to Hispanic samples are highlighted.

Attitudes & beliefs

Beliefs and attitudes positively associated with condom use included believing that condoms were effective for preventing pregnancy and AIDS, believing in one’s self-efficacy to communicate about, and use condoms, espousing values and norms favoring

condom use, and the partner's beliefs regarding condoms. Espousing positive and hedonistic views of sex, as well as believing that condoms make sex last longer, that one is able to control one's impulses, and that the partner *wants* to use condoms, also positively correlated with condom use (Hingson et al., 1990; Siegel, Lazarus, Krasnovsky, Durbin, & Chesney, 1991; Walter et al., 1993; Norris & Ford, 1994; Walter et al., 1994; Basen-Engquist et al., 1997; Villarruel et al., 2004; Koniak-Griffin & Stein, 2006; Villarruel et al., 2007; Deardoff et al., 2010; Tschann et al., 2010).

Attitudes and beliefs negatively associated with condom use were feeling embarrassed if asked to use condoms, feeling susceptible to AIDS, believing condoms break the mood for sex and are only appropriate for sex with a prostitute. Believing that condoms are difficult to dispose of, are uncomfortable, are only used with people who do not want to be emotionally close, was also inversely associated with condom use. Additional negative attitudes leading to less frequent condom use were: "sex does not feel right", "condoms are messy", fear of being perceived as promiscuous, believing a partner would become less trusting, and believing one could not negotiate condom use (Hingson et al., 1990; Walter et al., 1994; Norris & Ford, 1994; Villarruel et al., 2007).

Beliefs and attitudes positively associated with abstinence included perceived benefits of abstinence, self-pride, traditional views of sexuality, strong religious beliefs, and belief in *familismo* (in the Hispanic culture, *familismo*, is the value and importance placed on the family, Siatkowski, 2007). In addition to these, believing in one's self-efficacy to abstain, espousing values favoring abstinence, perceiving (friends') norms as favoring abstinence, and believing one has self-efficacy to communicate about

abstaining, were also positively correlated with sexually abstinent behavior (Walter et al., 1993; Walter et al., 1994; Basen-Engquist et al., 1997; Villarruel et al., 2004; Bazargan & West, 2006; Edwards et al., 2008; Guilamos-Ramos et al., 2009).

Attitudes and beliefs inversely (or negatively) associated with abstinence included perceived barriers to remaining abstinent, positive views of sex, belief in partner's approval of sexual intercourse, fearing the repercussions of pregnancy, and believing one's mother approved of dating (Walter et al., 1993; Walter et al., 1994; Villarruel et al., 2004; Bazargan & West, 2006; Guilamos-Ramos et al., 2009).

Beliefs and attitudes that were positively associated with use of contraceptive methods other than condoms included believing that force might be used in a sexual relationship and considering pregnancy an impediment to future goals (Kelly, Morgan-Kidd, Champion, & Wood, 2003; Jumping-Eagle, Sheeder, Kelly, & Stevens-Simon, 2008).

Attitudes and beliefs that were negatively associated with use of contraceptive methods other than condoms were fear of consequences to childbearing, preferring a stay-at-home motherhood, and having a negative attitude towards women with careers (Unger et al., 2000; Brown et al., 2003).

Contraceptives methods other than condoms, emergency contraception, and withdrawal were other reproductive behaviors that were affected by attitudes and beliefs. Perceiving the consequences of teenage childbearing was associated both positively and negatively with use of contraceptive methods other than condoms (Unger et al., 2000; Jumping-Eagle et al., 2008). Beliefs and attitudes positively associated with use of

emergency contraception (EC), specifically, included the belief that EC is not an abortifacient and is safe to use (Jackson, Schwarz, Freedman, & Darney, 2000). There were no attitudes or beliefs in the reviewed literature negatively associated with EC. One belief positively associated with the use of withdrawal as a contraceptive method was that withdrawal will prevent pregnancy (Gilliam & Hernandez, 2007).

Studies that employed structural equation modeling examined both direct and indirect effects on reproductive behaviors, and found certain attitudes toward sexual activity (i.e. “teens who do not have sex are cool”) were negatively and directly associated with unprotected sex, while perceived peer pressure to not have sex had an indirect effect upon risky sexual behavior (Bazargan, Stein, Bazargan-Hejazi, & Hindman, 2010, p. 290).

Other behaviors

Behaviors that were positively associated with increased condom use included carrying condoms, communicating with a physician about AIDS, using cocaine/crack¹, not being in a steady relationship, discussing sexuality, peer pressure, STIs, and risk with parent(s), talking about condoms with a mother, having behavioral control when using condoms, communicating risks associated with non-condom use with partner, engaging in direct verbal/nonverbal communication with partner, insisting on condom use during sex, and expressing dislike towards condoms² (Hingson et al., 1990; Koopman, Rosario, & Rotheram-Borus, 1994; Langer, Zimmerman, & Katz, 1994; Whitaker, Miller, May,

¹ Koopman, Rosario, & Rotheram-Borus (1994) found the use of cocaine/crack to be positively associated with condom use, despite the counterintuitive direction of the findings (p. 100)

² “Unexpectedly, expressing dislike of condom use was related to *more* condom use” (Tschann et al., 2010, p. 258)

& Levin, 1999; Levin & Robertson, 2002; Koniak-Griffin, Lesser, Uman, Nyamathi, 2003; Koniak-Griffin & Stein, 2006; Teitelman, Ratcliffe, & Cederbaum, 2008; Buzi, Smith, & Weinman, 2009, Tschann et al., 2010).

Other behaviors that were negatively associated with condom use included: substance use, previous involvement in sexual activity, anal sex, frequent church attendance, lacking behavioral control when using condoms, communicating with parents about hormonal birth control pills, preferring to satisfy one's sexual needs rather than using condoms, and being in a long-term relationship (Hingson et al., 1990; Nahom, Wells, Gillmore, Hoppe, Morrison, Archibald, Murowchick, Wilsdon, & Graham, 2001; Koniak-Griffin et al., 2003; Koniak-Griffin & Stein, 2006; Buzi et al., 2009; Deardoff et al., 2010; Tschann et al., 2010).

In one report, having behavioral control when using condoms was associated both positively and negatively with condom use (Koniak-Griffin & Stein, 2006). Koniak-Griffin & Stein measured behavioral control as a construct of the Theory of Reasoned Action, reflecting how easy or difficult the use of condoms was for their sample.

Behaviors positively associated with sexual abstinence included attending church at least once a week and communicating with father and mother about resisting sexual and peer pressures. Behaviors negatively associated with abstinence were: previous behavioral involvement in sexual activity, performing poorly academically, living with 1-2 parenting sisters, and behaving in a more acculturated manner (in accordance with

US lifestyle) (Edwards et al., 2008; Teitelman et al., 2008; Walter et al., 1993; Walter et al., 1994; Nahom et al., 2001; East & Kiernan, 2001; Guilamos-Ramos et al., 2009).

Other behaviors that were positively associated with the use of contraceptive methods (other than condoms) included performing well at school, having participated in three or more forms of sex education interventions, and planning future goals.

Additionally, exercising, attending to a healthy diet and to dental health, using seatbelts and using condoms at first intercourse were also positive correlates. Discussing with parents how pregnancy occurs, having only one sexual partner, and communicating with one's partner about birth control also correlated positively with using contraception (Costa, Jessor, Fortenberry, & Donovan, 1996; Sneed, Morisky, Rotheram-Borus, Ebin, Malotte, Lyde, & Gill, 2001; Manlove & Terry-Humen, 2007; Jumping-Eagle et al., 2008; Wu, Meldrum, Dozier, Stanwood, & Fiscella, 2008; Gilliam, Neustadt, Whitaker, Kozloski, 2011).

Behaviors that were negatively associated with using contraceptive methods (other than condoms) included having engaged in substance abuse, living alone or with non-family member, attending religious services once a week or more, having more than two sexual partners, having intercourse four or more times per week, taking birth control pills for less than seven months, not taking first hormonal birth control pill in person at the clinic, reacting positively to the prospect of pregnancy, being in a longer sexual relationship, previously having had a child, and expressing desire to become pregnant (Gelber, Leake, Lu, Andersen, Nyamathi, Morgenstern, & Browner, 2002; Garbers, Correa, Tobier, Blust, & Chiasson, 2010; Brown et al., 2003; Manlove & Terry-Humen,

2007; Kerns, Westhoff, Morroni, & Murphy, 2003; Wu et al., 2008; Rocca, Hubbard, Johnson-Hanks, Padian, & Minnis, 2010).

Behaviors positively associated with the use of EC included being married, previously having used oral contraceptives, having more than one prior pregnancy, having had an abortion, and receiving EC counseling (Jackson et al., 2000; Kavanaugh & Schwarz, 2008).

Other behaviors negatively associated with use of withdrawal were speaking with a partner about waiting to have sexual intercourse and being married (Gilliam & Hernandez, 2007). There were no behaviors positively associated with the use of withdrawal within the studies reviewed.

Attitudes, beliefs, & behaviors unique to Hispanic samples

Some of the studies identified factors that were associated, exclusively, with Hispanic teenagers. Among these, were positive attitudes and beliefs associated with increased condom use such as the belief that a sexual partner wants to use condoms, and belief that one has control over one's sexual impulses. Those factors that were negatively associated with condom use included the belief that one cannot negotiate the use of condoms.

Attitudes and beliefs of Hispanic female adolescents associated with abstinence included self-pride, traditional attitudes towards sexuality, strong religious beliefs, and a belief in *familismo* (in the Hispanic culture, *familismo*, is the value and importance placed on the family, Siatkowski, 2007). Beliefs and attitudes negatively associated with abstinence were positive views towards sex and beliefs that a partner approves of sex.

Among Hispanic adolescents, attitudes and beliefs negatively associated with the use of contraceptive methods (other than condoms) included preferring a stay-at-home motherhood and having negative attitudes towards women with careers (Tschann et al., 2010; Villarruel et al., 2004; Villarruel et al., 2007; Edwards et al., 2008; Guilamos-Ramos et al., 2009; Brown et al., 2003; Gilliam & Hernandez, 2007). None of the studies identified attitudes or beliefs positively associated with use of contraceptive methods (other than condoms) that were unique to Hispanic females.

Behaviors that were unique to Hispanic samples and were positively associated with condom use included: discussing sexuality, peer pressure, STIs, and risk with parent(s), communicating risks associated with non-condom use with partner, communicating directly both verbally and nonverbally with partner, and insisting on condom use. Other behaviors associated negatively with condom use were: communicating with parents about hormonal birth control methods, preference for satisfying one's sexual needs rather than using condoms, being involved in a longer-term relationship.

Regarding the practice of sexual abstinence attending church at least once a week was identified as a positive associated behavior, while behaving in a more acculturated manner (regarding US lifestyle) was identified as negatively correlated with the practice of abstinence.

Other behaviors positively associated with the use of contraceptive methods (other than condoms) included using a condom at first intercourse and communicating with partner about birth control. Living alone or with a non-family member, having more

than two sexual partners, having intercourse four or more times a week, and having taken birth control pills for less than seven months were determined to be inversely associated behaviors. Speaking with a partner about waiting to have sexual intercourse and being married were inversely associated with using withdrawal as a contraceptive method (Sneed et al., 2001; Brown et al., 2003; Gilliam & Hernandez, 2007; Edwards et al., 2008; Buzi et al., 2009; Guilamos-Ramos et al., 2009; Deardoff et al., 2010; Tschann et al., 2010; Gilliam et al., 2011).

Findings from Qualitative Studies

A few specific findings associated with contraceptive use that surfaced in qualitative studies, were not mentioned in quantitative studies. For instance, in the qualitative studies reviewed, adolescents described reasons for discontinuing the pill as health concerns (e.g. headaches associated with hormonal birth control pills), objections from important figures in a female's life, disruption in the female's relationship with her partner, environmental pressure to conceive another child, the hassle associated with the task of taking the pill (Erickson, 1994), and a male partner disposing of a female's birth control pill permanently (Miller, Decker, Reed, Raj, Hathaway, & Silverman, 2007).

Positively associated with the use of emergency contraception was the belief that if a female was sexually assaulted, EC was appropriate to use (Johnson, Nshom, Nye, & Cohall, 2010). Attitudes and beliefs negatively associated with EC use included believing EC was the "abortion pill", being perceived as promiscuous, family norms and values against EC, and feeling too intimidated to ask for EC at a pharmacy.

Barriers to condom use identified in the qualitative studies included: condoms purposively not being used by a partner because he would intentionally want to get the female pregnant, condom manipulation (i.e. compromising the condom's effectiveness, rendering it useless), females feeling powerless in the decision to use condoms, or feeling embarrassed when using or possessing condoms. Moreover, perceiving that intercourse was "meant" to happen without a condom, feeling condoms were unnecessary in a monogamous relationship, trusting a partner, and being perceived as promiscuous were all barriers to condom use (i.e., factors negatively associated with the behavior). Attitudes and beliefs positively associated with the use of *female* condoms were their effectiveness, convenience, and lack of side effects when compared to hormonal birth control pills (Latka, Kapadia, & Fortin, 2008; Miller et al., 2007; Griffin, 1994).

Other reproductive behaviors found in the qualitative studies included abstaining from sexual intercourse and participating in risky sexual behavior. Attitudes and beliefs adolescents had that were associated positively with abstinence and avoiding risky sexual behavior included believing they were never alone and constantly being watched, their religious beliefs, feeling an adolescent must maintain a respectable reputation, and preferring virginity. Those attitudes and beliefs negatively associated with abstinence were the need to feel safe, believing sex was a natural part of life, and not perceiving the severity of risks associated with sexual intercourse. Behaviors positively associated with sexual abstinence and avoidance of risky sexual behaviors included respecting oneself, one's family, and boyfriend, avoiding stereotypical Hispanic behavior, surrounding

oneself with friends who value virginity, and achieving educational goals (Martyn, Darling-Fisher, Smrtka, Fernandez, & Martyn, 2006; Johnston-Polack, Rojas, Levitt, & Mika, 2006; Griffin, 1994).

Discussion

This review provided a critical evaluation of the extant literature as well as an assessment of its methodological quality, regarding the research on U.S. Hispanic adolescents' reproductive behaviors. The review therefore identified, in a systematic manner, factors associated with reproductive behaviors that are prominent among adolescent groups that include Hispanics, and those specific to the Hispanic adolescent population living in the United States.

Despite the contributions this review makes to the literature, several limitations should be considered when interpreting its findings. First, the review was limited to the three databases listed in the methods section. Studies not housed in these databases were not included, and their absence could potentially skew the findings. We believe, however that, because these databases contain journals with high impact factors, the research we identified and reviewed represents some of the best of its kind. Second, studies published after October 2011 were not included. Although the time elapsed since October 2011 and the writing of this review would not allow a large number of new studies to be published, it is possible that a few prominent reports were missed. We don't believe, however, that these new studies would have introduced significantly different factors, from the ones identified in this review, given the short time period. Finally, every effort was made to reduce bias in the methodological quality scoring criteria but the scale

inherently favored studies with larger samples, longitudinal designs, and more robust statistical techniques, such as structural equation modeling. This scoring criteria, therefore, is biased against studies that — albeit important contributions to the literature — employed smaller samples or simpler statistical tests.

Despite a large number of beliefs and attitudes associated with reproductive behaviors among the general adolescent population, we will focus this discussion on those factors found exclusively among the Hispanic adolescent population. Concentrating on unique factors associated with the Hispanic population could assist in deciding which factors to focus on when creating interventions that would be culturally sensitive to, as well as effective for, this population (Brown et al., 2003).

Among Hispanic female adolescents participating in the reviewed studies, if they believed their partner wanted to use condoms, they were more likely to use them. Also, if a female believed her partner approved of sex, she was more likely to participate in sexual intercourse. Attitudes and beliefs deriving from Hispanic cultures that exhibited a significant association with reproductive behaviors were self-pride, traditional attitudes towards sex, strong religious beliefs, and a belief in *familismo*. Preferring a stay-at-home motherhood and espousing negative attitudes towards women in careers were negatively associated with contraceptive (other than condoms) use.

Communicating with parents and partner about sexual intercourse, STIs, and contraceptive use was a behavior significantly associated with reproductive practices among Hispanic adolescents. Although for the general adolescent population, church attendance was associated with less contraceptive use, acting on religious beliefs by

attending church services at least once a week was seen a positively associated with abstinence among Hispanic adolescents. Other behaviors such as being married, having multiple sexual partners, and living alone or with a non-family member were seen as deterrents to using contraceptive methods.

Theoretical frameworks employed to explain how these multiple factors are associated with reproductive behaviors included Acculturation Theory and the Theory of Planned Behavior. In this case, acculturation is the process by which Hispanic adolescents adopt the attitudes, beliefs, and behaviors of the US society (Perez-Escamilla & Putnik, 2007; Dawson, Crano, & Burgoon, 1996). Acculturation among Hispanics has been associated with both risky sexual behaviors as well as preventive behaviors that minimize sexual behavior risks (Unger & Molina, 2000). For example, the *familismo* constructs seen in acculturation theory were seen in this review as significantly associated with reproductive behaviors among Hispanic adolescents. The Theory of Planned Behavior explains how attitudes towards a behavior are associated through constructs such as normative beliefs, behavioral beliefs, perceived behavioral control, and self-efficacy (Villarruel et al., 2004). Partner and family approval, falling under normative beliefs, were seen as important to the female adolescent when confronted with the decision to use contraceptives.

There were some findings that came as a surprise in terms of the direction of association towards reproductive behaviors. For example, expressing dislike towards condoms was actually seen as *increasing* condom use when it would be expected that expressing dislike would actually decrease use (Tschann et al., 2010).

Future research should focus on studies carried out with exclusively-Hispanic samples, in order to identify factors specific to Hispanic adolescents and their reproductive behaviors. Cultural differences that affect attitudes, beliefs, and behaviors, within mixed samples could provide obscure findings. If a real change is to be made in pregnancy and childbirth rates among Hispanics, more than the reported 24% of studies reviewed should have samples comprised of solely Hispanic adolescents. Gathering data from samples located within states that have a higher percentage of Hispanic residents (Figure 2, Appendix) could help in achieving this goal.

Additionally, with the majority of studies (90%) having a cross-sectional research design, longitudinal data are sorely needed to shed light on the causal relationships among factors and behaviors. Moreover, careful attention should be paid to precisely defining “Hispanic” when including participants in a study’s sample. Seventy-six percent (76%) of studies stated they were studying a Hispanic sample, but did not mention what sub-sets of the population were included (e.g. Puerto-Rican, Mexican, and so on). This is important due to subtle (and not-so-subtle) differences in cultural norms and beliefs, across Hispanic sub-groups. For example, the Puerto Rican culture differs from the Mexican culture in that some family Puerto Rican beliefs are shaped significantly by its status as an American territory, with a mainland connection (Fernandez-Marina, Maldonado-Sierra, & Trent, 1958). Therefore, studies should either define what type of Hispanic group they are sampling, or differentiate among groups when reporting findings.

By focusing on factors unique to the Hispanic population, future sexual health education programs could become more culturally competent and sensitive to Hispanic adolescents and, thus, become more effective. Despite declines in teenage birth rates, numbers of adolescent pregnancies in the US remain astonishingly high, especially among industrialized countries. Culturally-appropriate programming is important, especially in light of the demographic changes the US will continue to experience, and their potential racial/ethnic disparities (Betancourt, Green, Carrillo, & Ananeh-Firempong, 2003).

CHAPTER III

SUMMARY/CONCLUSION

The focus of this study was to systematically review the literature examining said factors, such as attitudes, beliefs, and behaviors that influence Hispanic female adolescents' reproductive behaviors. These reproductive behaviors can lead to unplanned/unwanted adolescent pregnancies. This review was conducted by systematically assessing articles through a process of abstracting and organizing their data (and methodological quality assessments) into a matrix. The review therefore identified, in an unbiased manner of inclusion, factors associated with reproductive behaviors that were prominent among the adolescent population and those that were unique to the Hispanic adolescent population.

Study characteristics were abstracted to find patterns and inconsistencies. To assist with this and determine quality within the literature, a methodological quality criteria was developed and a methodological quality score (MQS) was assigned. For quantitative studies, a score of 16 was the highest total score possible and 9 was the highest score possible for qualitative studies. Regarding population size, only 24% of studies had a study sample comprising Hispanic participants, exclusively.

Findings associated with reproductive behaviors among Hispanic adolescents consisted of beliefs concerning sexual partners, cultural beliefs, and traditional beliefs. Behaviors that were seen as significantly associated with said reproductive behaviors included communicating with partners and parents, attending church, being married, and

having multiple sexual partners. Limitation to this review included restricting the search to three databases, the time frame, and the possible MQS bias.

With this review, I hope to build upon the findings by conducting my own mixed methods (qualitative/quantitative) study with a Hispanic sample of adolescents. Using the findings found significant and unique to Hispanic samples, a precise survey instrument could be used developed to measure these factors. It is my goal to gather data from geographical locations with a growing Hispanic population.

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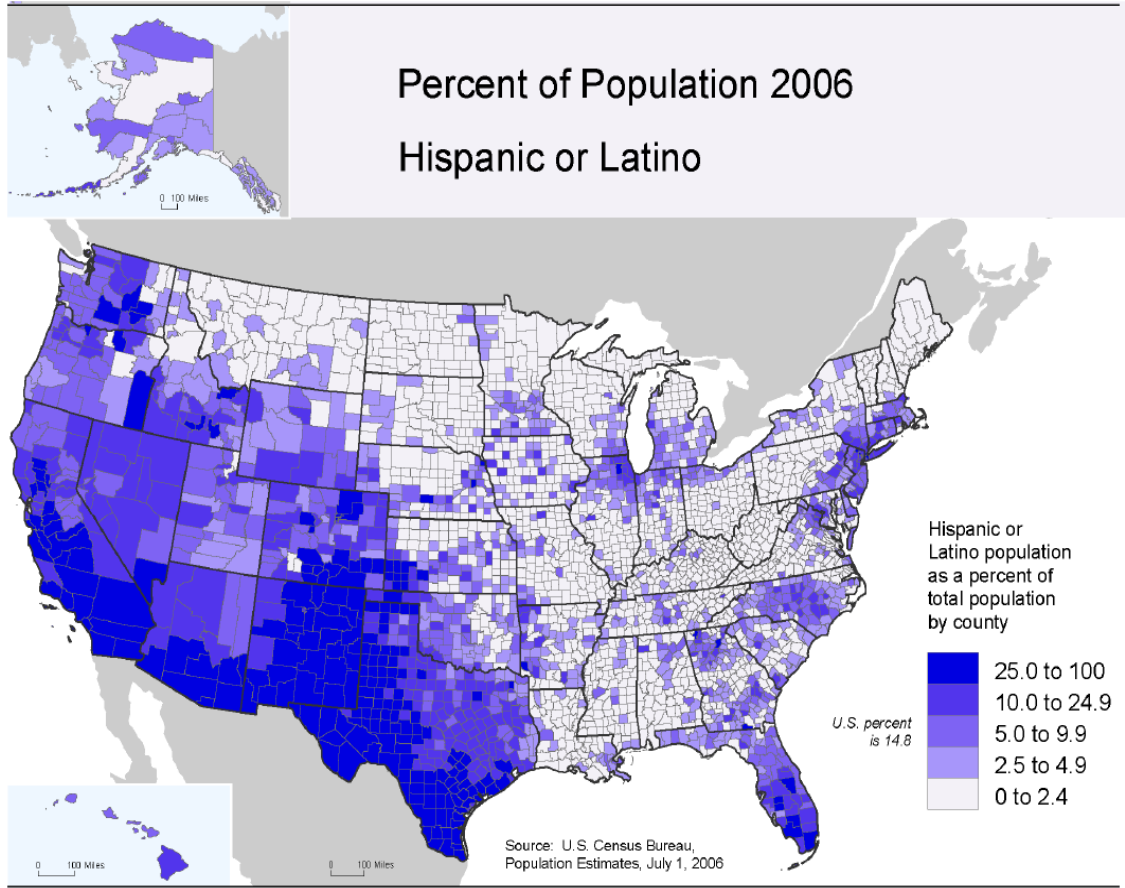
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APPENDIX

Figure 2. Population distribution of Hispanic or Latinos in the US in 2006



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